IN THE CLAIMS

Please amend the claims as follows:

1. (original) A method of providing threshold crossing timing recovery in an optical system, which optical system is adapted to read data signal samples (y_s) from an optical disc, said method comprising the steps of:

- reading data signal samples (y_s) at a sampling time (t_s) from the optical disc by means of the optical system,
- feeding the read data signal samples (y_s) to a timing recovery means (100) comprising a timing error detection means (20),
- determining timing error information (ψ_m) by means of the timing error detection means (20),
- adjusting the sampling time (t_s) towards synchronous timing instants (t_k) on the basis of the timing error information (ψ_k),

characterized in that an eye pattern of the data signal samples (y_s) is used in the step of determining timing error information (ψ_k), and that the timing error detection means (20) is adapted to extract timing error information (ψ_k) at the position of a secondary eye in the eye pattern.

2. (original) A method according to claim 1, characterized in that the timing recovery means uses threshold crossing timing recovery.

3. (original) A method according to claim 2, characterized in that the threshold crossing timing recovery is zero crossing timing recovery.

4. (currently amended) A method according to ~~any of the claims 1 to 3~~claim 1, characterized in that the timing error information (ψ_m) around a threshold crossing between the instants mT and $(m+1)T$ is calculated as:

$$\psi_m = \frac{y_m - x}{y_m - y_{m+1}} - \alpha T ,$$

where T is the data sample period, y_m and y_{m+1}, respectively, is the data signal sample at the instants mT and $(m+1)T$, respectively, α is a phase shift constant lying in the interval $0 \leq \alpha < 1$, and x is a displacement of the threshold.

5. (currently amended) A method according to ~~any of the claims 1 to 3~~claim 1, characterized in that the timing error information

(ψ_m) around a threshold crossing between the instants mT and $(m+1)T$ is calculated as:

$$\psi_m = \frac{y_m - x'}{y_m - y_{m+1}} - \beta T \ ,$$

where T is the data sample period, y_m and y_{m+1}, respectively, is the data signal sample at the instants mT and $(m+1)T$, respectively, β is a phase shift constant lying in the interval $0 \leq \beta < 1$, and x' is a displacement of the threshold.

6. (currently amended) A system for performing the method according to ~~claims 1 to 5~~claim 1.

7. (currently amended) An apparatus for writing bit patterns on an optical disc to be read in by use of method according to ~~claims 1 to 5~~claim 1.

8. (currently amended) A disc whereon bit patterns are written to be read by use of the method according to ~~claims 1 to 5~~claim 1.